

In the claims:

1. (Currently amended) A site specific recombination method for removal of predetermined nucleic acid sequences from the plastid genome, said method comprising:

a) providing a first nucleic acid construct, said construct comprising a promoter being operably linked to a nucleic acid encoding ~~an optional~~ plastid targeting transit sequence which is operably linked to a nucleic acid encoding a protein site specific recombinase having excision activity, said construct further comprising a first selectable marker encoding nucleic acid having plant specific 5' and 3' regulatory nucleic acid sequences;

b) providing a second DNA construct, said second construct comprising an second selectable marker encoding nucleic acid sequence which is flanked by~~and~~ excision sites, said second construct optionally containing a gene of interest, said second construct further comprising flanking plastid targeting nucleic acid sequences which facilitate homologous recombination into said plastid genome;

c) introducing said second DNA construct into a plant cell;

d) culturing said plant cell of step c) in the presence of a selection agent, thereby selecting for those plant cells expressing the proteins encoded by said second DNA construct;

e) introducing said first DNA construct into plant cells from step d) in the presence of a selection agent and selecting those plant cells expressing proteins encoded by said first construct, which when present said ~~excising activity site~~ specific recombinase acts on said excision sites, thereby ~~excising removing~~ said predetermined target sequence flanked by said excision sites from said plastid genome.

2. (Original) A method as claimed in claim 1, wherein a plant is regenerated from plant cells of step c), cells are then contacted with said first construct and steps d) and e) are performed.

3. (Original) A method as claimed in claim 1, wherein said first construct is that depicted in Figure 3.

4. (Original) A method as claimed in claim 1, wherein said second construct is that depicted in Figure 2.

5. (Currently amended) A method as claimed in claim 1, wherein said protein site specific recombinase ~~having excision activity~~ is selected from the group consisting of CRE, flippase, resolvase, FLP, SSV1-encoded integrase, and transposase.

6. (Currently amended) A method as claimed in claim 1, wherein said excision sites are LOX sequences when CRE recombinase is used, and frt sequences when FLP recombinase is used.

7. (Original) A method as claimed in claim 1, wherein said selection agent is selected from the group consisting of kanamycin, gentamycin, spectinomycin, streptomycin and hygromycin, phosphinotricin, basta, glyphosate and bromoxynil.

8. (Original) A method as claimed in claim 1, wherein said excision of said predetermined sequence creates an expressible translational fusion protein.

10. (Original) A method as claimed in claim 1, wherein said predetermined target sequence is the selectable marker encoding nucleic acid present in said second construct.

11. (Currently amended) A plant regenerated from the plant
cells of step e)-~~method~~ of claim 1.

12. (Currently amended) A site specific recombination system comprising the constructs of the method of claim 1.

13. (Currently amended) A site specific recombination method for removal of predetermined nucleic acid sequences from the plastid genome, said method comprising:

a) providing a first nucleic acid construct, said construct comprising a regulated promoter being operably linked to a nucleic acid encoding ~~an optional~~ plastid targeting transit sequence which is operably linked to a nucleic acid encoding a site specific recombinase protein having excision activity, said construct optionally further comprising a first selectable marker encoding nucleic acid having plant specific 5' and 3' regulatory nucleic acid sequences;

b) providing a second DNA construct, said second construct comprising an second selectable marker encoding nucleic acid ~~and excision sites~~, said second construct further comprising flanking plastid targeting nucleic acid sequences which facilitate homologous recombination into said plastid genome at a ~~predetermined target~~ plastid genome sequence targeted for deletion and excision sites such that said excision sites flanking both the plastid genome sequence targeted for deletion and the selectable marker nucleic acid predetermined target sequence following homologous recombination;

c) introducing said second DNA construct into a plant cell;

d) culturing a plant cell of step c) in the presence of a selection agent, thereby selecting for those plant cells expressing the proteins encoded by said second DNA construct;

e) regenerating a plant from cells obtained in step d);

f) introducing said first DNA construct into plant cells from the plant of step e) in the presence of a selection agent and selecting those plant cells expressing proteins encoded by said first construct, which when present said site specific recombinase excising activity acts on said excision sites, thereby removing said plastid genome sequence targeted for deletion and said selectable marker nucleic acid predetermined target sequence.

14. (Original) A method as claimed in claim 13, wherein said regulatable promoter is selected from the group of promoters consisting of inducible promoters, tissue specific promoters, developmentally regulated promoters and chemically inducible promoters.

15. (Currently amended) A method as claimed in claim 13, wherein said predetermined target sequence is selected from the group consisting of genes associated with male sterility genes, clpP ribosomal proteins, and ribosomal RNA operon sequences.

16. (Original) A method as claimed in claim 13, wherein said protein having excision activity is selected from the group consisting of CRE, flippase, resolvase, FLP, SSV1-encoded integrase, and transposase.

17. (Currently amended) A method as claimed in claim 13, wherein said excision sites are LOX sequences when CRE recombinase is used, and frt sequences when FLP recombinase is used.

18. (Original) A method as claimed in claim 13, wherein said selection agent is selected from the group consisting of kanamycin, gentamycin, spectinomycin, streptomycin and hygromycin, phosphinotricin, basta, glyphosate and bromoxynil.

19. (Currently amended) A plant regenerated from the plant
cells of step f) ~~method~~ of claim 13.
20. (Currently amended) A site specific recombination system
for removal of predetermined nucleic acid sequences comprising
the constructs of claim 13.
21. (Original) Progeny plants obtained from the plant of
claim 11.
22. (Original) Progeny plants obtained from the plant of
claim 18.